

Claims

- [c1] A crewmember rest support system comprising:
 - a berth mattress;
 - a support structure coupled to and supporting said berth mattress; and
 - a pneumatic system coupled to said support structure comprising:
 - at least one inflatable member having at least one inflatable state; and
 - at least one pump actuating said at least one inflatable member and articulating at least a portion of said support structure.
- [c2] A rest support system as in claim 1 wherein said berth mattress is selected from at least one of a pad, a cushion, a mat, a case filled with resilient material, and an inflatable mat.
- [c3] A rest support system as in claim 1 wherein said berth mattress is cocoon shaped.
- [c4] A rest support system as in claim 1 wherein said berth mattress is ergonomically shaped.

- [c5] A rest support system as in claim 1 wherein said berth mattress comprises a headrest.
- [c6] A rest support system as in claim 5 wherein said headrest is adjustable.
- [c7] A rest support system as in claim 5 wherein said headrest is pneumatically adjustable.
- [c8] A rest support system as in claim 1 wherein said berth mattress comprises a plurality of mattress segments.
- [c9] A rest support system as in claim 1 wherein said support structure comprises a frame.
- [c10] A rest support system as in claim 1 wherein said support structure comprises a weaved material.
- [c11] A rest support system as in claim 1 wherein said at least one inflatable member comprises an air bag.
- [c12] A rest support system as in claim 11 wherein said air bag is pleated.
- [c13] A rest support system as in claim 1 wherein said at least one inflatable member articulates said support structure into a plurality of orientations.
- [c14] A rest support system as in claim 1 wherein said at least one inflatable member comprises:

a first inflatable member expandable to adjust a first portion of said support structure; and
a second inflatable member expandable to adjust a second portion of said support structure.

- [c15] A rest support system as in claim 14 wherein said first portion comprises a leg element.
- [c16] A rest support system as in claim 14 wherein said second portion comprises a back element.
- [c17] A rest support system as in claim 14 wherein said second inflatable member articulates a plurality of joints of said support structure.
- [c18] A rest support system as in claim 1 wherein said at least one pump articulates a plurality of joints in said support structure.
- [c19] A rest support system as in claim 1 wherein said plurality of joints comprises joints selected from at least one of an ankle joint, a leg joint, a pelvic joint, a back joint, and a neck joint.
- [c20] A rest support system as in claim 1 further comprising at least one armrest coupled to said berth mattress.
- [c21] A rest support system as in claim 20 wherein said at least one armrest is deployable with articulation of said

support structure.

- [c22] A rest support system as in claim 20 wherein said at least one armrest is formed of a flexible position sustainable structure.
- [c23] A rest support system as in claim 1 further comprising a cup holder coupled to said support structure.
- [c24] A rest support system as in claim 1 wherein said support structure comprises:
 - at least one fixed joint; and
 - at least one slider joint.
- [c25] A berth for an aircraft comprising:
 - a berth enclosure;
 - at least one berth mattress;
 - at least one support structure coupled to and supporting said at least one berth mattress within said berth enclosure; and
 - at least one pneumatic system coupled to said at least one support structure comprising:
 - at least one inflatable member having at least one inflatable state; and
 - at least one pump actuating said at least one inflatable member and articulating at least a portion of said support structure.

- [c26] A berth as in claim 25 further comprising a retractable tray coupled to and deployable within said berth enclosure.
- [c27] A berth as in claim 25 further comprising a controller coupled to said at least one pump and controlling orientation of said at least one support structure.
- [c28] A berth as in claim 25 further comprising a control panel coupled to and within said berth enclosure and controlling orientation of said at least one structure.
- [c29] A berth as in claim 25 further comprising at least one stowage unit coupled to and within said berth enclosure.
- [c30] A berth as in claim 25 wherein said berth enclosure is divided into a first half and a second half.
- [c31] A berth as in claim 30 wherein said first half comprises:
 - a first berth mattress;
 - a first support structure coupled to and supporting said first berth mattress; and
 - a first pneumatic system coupled to and articulating said first structure.
- [c32] A berth as in claim 31 wherein said second half comprises:
 - a second berth mattress;

a second support structure coupled to and supporting said first berth mattress; and
a second pneumatic system coupled to and articulating said first structure.

- [c33] A crew rest compartment for an aircraft comprising:
 - at least one berth enclosure comprising;
 - at least one berth mattress;
 - at least one support structure coupled to and supporting said at least one berth mattress within said berth enclosure; and
 - at least one pneumatic system coupled to said at least one support structure comprising:
 - at least one inflatable member having at least one inflatable state; and
 - at least one pump actuating said at least one inflatable member and articulating at least a portion of said support structure.
- [c34] A rest area compartment as in claim 33 further comprising at least one access unit for accessing said at least one berth enclosure.
- [c35] A rest area compartment as in claim 33 wherein said at least one berth enclosure comprises:
 - a first ergonomically shaped berth enclosure; and
 - a second ergonomically shaped berth enclosure.

[c36] An aircraft comprising:

- at least one crew rest compartment comprising;
- at least one berth mattress;
- at least one support structure coupled to and supporting said at least one berth mattress within said berth enclosure; and
- at least one pneumatic system coupled to said at least one support structure comprising:
- at least one inflatable member having at least one inflatable state; and
- at least one pump actuating said at least one inflatable member and articulating at least a portion of said support structure.

[c37] An aircraft as in claim 36 further comprising a controller coupled to said at least one pump and controlling orientation of said at least one support structure.

[c38] A crewmember rest support system comprising:

- a berth mattress;
- a support structure coupled to and supporting said berth mattress and having a plurality of joints; and
- a pneumatic system coupled to and articulating said support structure into a plurality of orientations, said pneumatic system comprising:
- a first inflatable member articulating a first portion of

said support structure; and
a second inflatable member articulating a second portion
of said support structure.

- [c39] A method of articulating a berth mattress comprising:
articulating a first joint of a berth mattress support
structure via first inflatable member;
sliding a second joint of said berth mattress support
structure; and
articulating a third joint of said berth mattress support
structure via a second inflatable member.
- [c40] A method as in claim 39 further comprising articulating
a forth joint of said berth mattress support structure via
said second inflatable member.